

Claims:

1-11. (canceled)

12. (currently amended) Polyvinyl alcohol gel comprises at least two polyvinyl alcohols of the types PVA1, PVA2 and PVA3 and a swelling agent, wherein the degrees of polymerisation DP of PVA1 and PVA3 are  $>1000$  and the degree of polymerisation DP of PVA2 is in the range of  $50\text{--}\underline{1000}$   ~~$100$~~  and PVA1 and PVA2 are predominantly linear whereas PVA3 has a fraction of long-chain branchings.

13. (currently amended) The polyvinyl alcohol gel according to claim 12, wherein the gel has a modulus of elasticity E and/or a strength  $\sigma_m$  in MPa is  $>5$  and ~~optionally~~ a stress-strain curve having a negative curvature over an interval within the range of 0-300% strain.

14. (previously presented) The polyvinyl alcohol gel according to claim 13, wherein the modulus of elasticity E and/or strength  $\sigma_m$  is  $>10$ .

15. (previously presented) The polyvinyl alcohol gel according to claim 14, wherein the modulus of elasticity E and/or strength  $\sigma_m$  is  $>15$ .

16. (previously presented) The polyvinyl alcohol gel according to claim 13, wherein the modulus of elasticity E and/or strength  $\sigma_m$  is  $>20$ .

17. (previously presented) The polyvinyl alcohol gel according to claim 12, wherein the gel is obtained from a mixture of polyvinyl alcohol and swelling agent, wherein the viscosity of the mixture during forming is  $>10,000$  mPa.

18. (previously presented) A process for preparing the gel of claim 17, including extruding the mixture to obtain a gel formation.

19. (currently amended) The process according to claim 18, including storing the gel formation at a temperature above the freezing point, wherein a heat treatment is ~~optionally~~ carried out and/or a reduction in the water content takes place during the storage.

20. (currently amended) The polyvinyl alcohol gel according to claim 12, wherein

a) the degree of hydrolysis of PVA1, PVA2 and PVA3 in mole % is  $>95$ ;

b) the 1,2-glycol content of PVA1, PVA2 and PVA3 in mole % is  $<3$ ;

c) the number of short-chain branchings of PVA1, PVA2 and PVA3 per monomer unit is  $<10^{-2}$ ; and

d) PVA1, PVA2 and PVA3 ~~preferably~~ have an atactic conformation.

21. (currently amended) The polyvinyl alcohol gel according to claim 12, wherein

a) the degree of hydrolysis of PVA1, PVA2 and PVA3 in mole % is  $>98$ ;

b) the 1,2-glycol content of PVA1, PVA2 and PVA3 in mole % is  $<1$ ;

c) the number of short-chain branchings of PVA1, PVA2 and PVA3 per monomer unit is  $<10^{-3}$ ; and

d) PVA1, PVA2 and PVA3 ~~preferably~~ have an atactic conformation.

22. (currently amended) The polyvinyl alcohol gel according to claim 12, wherein

a) the degree of hydrolysis of PVA1, PVA2 and PVA3 in mole %

is >99;

b) the 1,2-glycol content of PVA1, PVA2 and PVA3 in mole % is <0.5;

c) the number of short-chain branchings of PVA1, PVA2 and PVA3 per monomer unit is  $<10^{-4}$ ; and

d) PVA1, PVA2 and PVA3 ~~preferably~~ have a predominantly syndiotactic conformation.

23. (currently amended) The polyvinyl alcohol gel according to claim 12, wherein

a) the degree of hydrolysis of PVA1, PVA2 and PVA3 in mole % is >99.8;

b) the 1,2-glycol content of PVA1, PVA2 and PVA3 in mole % is <0.2;

c) the number of short-chain branchings of PVA1, PVA2 and PVA3 per monomer unit is  $<10^{-6}$ ; and

d) PVA1, PVA2 and PVA3 ~~preferably~~ have a predominantly syndiotactic conformation.

24. (previously presented) The polyvinyl alcohol gel according to claim 12, wherein

a) PVA1 and PVA3 have a degree of polymerisation  $DP > 1000$ ; and

b) PVA2 has a degree of polymerisation DP in the range of 50-1000.

25. (previously presented) The polyvinyl alcohol gel according to claim 12, wherein

a) PVA1 and PVA3 have a degree of polymerisation  $DP > 2000$ ; and

b) PVA2 has a degree of polymerisation DP in the range of 60-500.

26. (previously presented) The polyvinyl alcohol gel according to claim 12, wherein

a) PVA1 and PVA3 have a degree of polymerisation  $DP > 3000$ ;  
and

b) PVA2 has a degree of polymerisation  $DP$  in the range of 70-300.

27. (previously presented) The polyvinyl alcohol gel according to claim 12, wherein

a) PVA1 and PVA3 have a degree of polymerisation  $DP > 5000$ ;  
and

b) PVA2 has a degree of polymerisation  $DP$  in the range of 75-200.

28. (previously presented) The polyvinyl alcohol gel according to claim 12, wherein

a) the fraction of PVA2 relative to PVA in wt. % is in the range of 1-95;

b) the fraction of PVA3 relative to PVA in wt. % is in the range of 1-80; and

c) the fraction of PVA relative to PVA and swelling agent in wt. % is in the range of 5-90.

29. (previously presented) The polyvinyl alcohol gel according to claim 12, wherein

a) the fraction of PVA2 relative to PVA in wt. % is in the range of 2-90;

b) the fraction of PVA3 relative to PVA in wt. % is in the range of 2-60; and

c) the fraction of PVA relative to PVA and swelling agent in wt. % is in the range of 7-95.

30. (previously presented) The polyvinyl alcohol gel according to claim 12, wherein

a) the fraction of PVA2 relative to PVA in wt. % is in the range of 3-85;

b) the fraction of PVA3 relative to PVA in wt. % is in the

range of 3-50; and

c) the fraction of PVA relative to PVA and swelling agent in wt. % is in the range of 10-80.

31-35. (cancelled)

36. (previously presented) The polyvinyl alcohol gel, according to claim 12, wherein the gel has a degree of swelling Q in water in the range of 1.01-3.

37. (previously presented) The polyvinyl alcohol gel, according to claim 12, wherein the gel has a degree of swelling Q in water in the range of 1.03-2.

38. (previously presented) The polyvinyl alcohol gel, according to claim 12, wherein the gel has a degree of swelling Q in water in the range of 1.05-1.5.

39. (previously presented) The polyvinyl alcohol gel according to claim 12, wherein the gel is transparent and free of organic solvents.

40. (previously presented) A process according to claim 18, including preparing the gel into a biomedicine.

41. (previously presented) A process according to claim 18, including preparing the gel into an agriculture product.